



# The Effects of Photographic Identification on Voter Turnout in Indiana: A County-Level Analysis

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## Abstract:

I examine the change in voter turnout across Indiana counties before and after the implementation of photo ID requirements. Overall, statewide turnout increased by about two percentage points after photo ID; further, there is no consistent evidence that counties that have higher percentages of minority, poor, elderly or less-educated population suffer any reduction in voter turnout relative to other counties. In fact, the estimated effect of photo ID on turnout is positive for counties with a greater percentage of minorities or families in poverty. The only consistent and frequently statistically significant impact of photo ID in Indiana is to increase voter turnout in counties with a greater percentage of Democrats relative to other counties. These findings run counter to some recent and prominent concerns that have been raised about voter identification reforms; however, these results are consistent with both existing theory on voter behavior and the most recent and reliable empirical evidence on the effects of voter identification requirements on turnout.



# The Effects of Photographic Identification on Voter Turnout in Indiana: A County-Level Analysis

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## 1. Introduction

This study evaluates the effects of photographic voter identification requirements implemented in Indiana prior to the 2006 general election. Previous studies have examined the effects of voter identification laws more generally, but none of these separately analyzes the effects of so-called “mandatory photo ID” (hereafter simply, “photo ID”) on turnout in Indiana.<sup>1</sup> Nevertheless, the existing scholarly literature on voter identification does strongly suggest that photo ID requirements are likely to have only a negligible impact on overall voter turnout; further, previous studies indicate that photo ID is unlikely to reduce the relative participation of minorities (e.g., Alvarez et al. 2007 and Mycoff et al. 2007). Given that these lessons from social science research run counter to the conventional wisdom, at least that espoused in some quarters,<sup>2</sup> I first review the most recent and relevant literature on the effects of voter identification on turnout, then present the findings from my empirical analysis of turnout in Indiana.

The change in voter turnout from the 2002 to 2006 general elections provides a nearly ideal natural experiment for estimating the effects of photo ID on voter turnout across the 92 counties in Indiana. Both years were midterm election years and in neither year was there a major contested statewide race (i.e., for governor or U.S. Senate); however, 2006 was the first general election year in which Indiana’s photo ID law was actually implemented. I exploit this natural experiment to identify the effects of photo ID on turnout in counties with a greater percentage of minority, poor, elderly, or less educated populations.

I examine a variety of models of voter turnout and control for the influence of several other factors that may influence turnout. Overall, voter turnout

in Indiana increased about two percentage points from 2002 to 2006; however, in counties with greater percentages of minority or poor voters, turnout increased by even more, although this increase is not statistically significant. For counties with greater percentages of elderly or less educated voters, results are more mixed, but not consistently significant or negative. The only consistent and frequently significant effect of voter ID that I find is a positive effect on turnout in counties with a greater percentage of Democrat-leaning voters.

## 2. Voter ID and Turnout: Lessons from the Social Science Literature

The public debate over photo identification requirements for voters has been marked by oft-repeated concerns about the possible dramatic and detrimental effects of state voter identification requirements on voter turnout. The political rhetoric has become so superheated that recent attempts to reform voter identification laws have been met with explicit accusations of racism on the part of reformers, dire warnings of a coming “disenfranchisement,” and assertions that such reforms, though popular across party lines, are a “thinly veiled” attempt to prevent Democrats from voting.

In contrast, political theory suggests that the effects of voter identification laws on voter turnout are ambiguous. Such reforms increase the effort required to vote for some persons without proper identification (at least one time, anyway). Of course, some of these persons may be eligible voters and others will be ineligible voters. However, voter identification reforms may also instill greater confidence in the electoral process among eligible voters, making them more willing to participate in elections. Consequently, the actual impact of voter identification on turnout is an



empirical question; and even if turnout decreases with voter identification laws, it is by no means apparent that it is eligible voters that are being affected.

Until very recently, there were no systematic statistical studies of the effects of photo ID requirements for voting, although it has long been understood that many other countries both require such identification and experience higher rates of turnout than in the U.S. Studies of voter turnout across countries have instead focused on voter registration, the frequency of elections, non-compulsory voting, and single-member districts (as opposed to proportional representation) as reasons that turnout in the U.S. is low relative to other developed democracies (Powell 1986 and Blaise 2006). The fact that such cross country studies do not even entertain the possibility that photo ID requirements reduce turnout is itself informative about the long-standing opinion of the political science profession regarding the relative unimportance of such laws for turnout.

In contrast, numerous studies analyze the effects of voting institutions other than voter identification on turnout. In general, these studies find at best very modest effects of post-registration laws such as time off work for voting, opening polls early or keeping polls open late, mailing sample ballots, etc. (Primo, et al. 2007). This is because voter registration is a relatively high hurdle compared to these post-registration requirements; adding or removing some marginal costs of voting beyond registration has virtually no observable effect on turnout. Applying these lessons to voter identification, it is highly unlikely that anyone sufficiently motivated to register to vote, inform themselves about the current election issues, and transport themselves to a polling place will then be deterred by the incremental requirement of presenting proper identification at the polls.

In fact, there is an even more fundamental reason to expect that the impact voter identification requirements on turnout are likely to be negligible. This is because very few eligible voters lack official identification and presumably even fewer (if any) lack the capacity to produce sufficient identification should they have a need and inclination to do so.<sup>3</sup> Finally, the ability to cast a provisional ballot reduces further the potential for a legitimate voter to be disenfranchised, even when that person lacks proper identification.

On this point, Ansolabehere (2007) notes that in a recent national survey with 36,500 respondents, only 23 persons self-reported that they were not permitted to cast a regular ballot at the polls in 2006 because of identification problems. Further, it is not clear how many of these 23 persons cast a provisional ballot, although it appears that most did;<sup>4</sup> nor is it ascertainable from the survey whether any of these persons were actually eligible to vote, or whether they were honestly reporting problems at the polls.<sup>5</sup> It is nonetheless apparent that recent claims of a coming "disenfranchisement" are nothing more than irresponsible and ignorant exaggerations (e.g., Schulz 2007).

On the other hand, the widespread popularity of voter identification requirements suggests that the general public is indeed concerned about vote dilution from ineligible votes.<sup>6</sup> Lott (2006) has argued that confidence in the fairness of elections translates directly into higher voter turnout; such an effect, if it existed, might also reasonably be expected to be most pronounced for groups that tend to have less trust in the efficacy American democracy (e.g., racial and ethnic minorities, the poor and the less educated).

In fact, scholars of American politics generally agree that voter turnout is determined largely by idiosyncratic factors, such as an individual's intrinsic value of voting (i.e., does the individual feel a duty to vote) as opposed to political institutions (Matsusaka and Palda 1999; Mycoff et al., 2007).<sup>7</sup> For this reason, factors that influence trust and confidence in the integrity of the electoral process are generally thought to be important determinants of an individual's decision to vote (Putnam 2000).<sup>8</sup> For all these reasons, it is theoretically plausible that photo identification requirements actually increase voter turnout. Consequently, there exists a long-standing political science literature that does not support recent assertions that photo ID requirements have dramatic and detrimental effects on turnout.

#### *Recent empirical studies of state voter identification laws*

In the wake of recent legislation implementing voter identification reforms in the states, a flurry of new empirical studies have appeared that more directly address the question of how state voter identification laws impact voter turnout. Unfortunately, the two



studies that have received the most coverage in the press (Eagleton 2006 and Vercellotti and Anderson 2006; hereafter, the "Rutgers studies") are fatally flawed on several counts.<sup>9</sup> For example, several authors note that these studies examine only a single cross-section of turnout data from 2004, so cannot properly estimate the treatment effect of state voter identification laws; nor can these studies properly estimate the effects of mandatory photo ID requirements (Alvarez, et al 2007, Mycoff, et al 2007 and Muhlhausen and Sikich 2007). Further, the Rutgers studies miscode several state identification laws (Mycoff, et al. 2007 and Muhlhausen and Sikich 2007). Finally, the findings reported in the Rutgers studies are not robust to reasonable changes in their statistical model (Alvarez, et al. 2007 and Muhlhausen and Sikich 2007).

The flawed Rutgers studies are also the only systematic studies of voter identification for which the authors conclude that ID laws have strong or consistently negative consequences for voter turnout overall, and especially for minorities. However, even ignoring the methodological problems with the Rutgers studies, the authors do an additional disservice to the public debate by mischaracterizing their own findings. For example, taken at face value, the results presented in the Rutgers studies imply that the most strict forms of voter identification laws examined in their data (voluntary photo ID) are associated with higher voter turnout among Black, Hispanic and Asian minorities than are the next most strict category of identification laws that they examine (non-photo ID). Further, the Rutgers studies also find that voluntary photo ID requirements yield no difference in overall turnout compared to non-photo ID requirements. The authors of the Rutgers studies fail to note any of these findings; this is a serious error that leads them to make conclusions that are not supported by their own evidence.

In contrast to the Rutgers studies, more recent studies stand out for both their methodological rigor and the fact that they examine voter turnout through the 2006 general elections (Alvarez, et al. 2007 and Mycoff, et al 2007). However, both of these studies are work in progress, so results must be interpreted with care.

Mycoff et al. (2007) examine the effects of voter identification laws on state level voter turnout, as well as individual-level self-reported voter

turnout from the National Election Studies (a large national survey that is conducted each election year). The authors examine turnout from 2000 to 2006 using a random-effects model; they find that voter ID laws are not significantly related to turnout in either the aggregate state data or the individual level data. The individual-level analysis in Mycoff et al. is a particularly valuable innovation, since it allows the researchers to more confidently discuss the impacts of voter identification on minorities, the poor, the elderly, etc. However, the original analysis in Mycoff et al. does not examine these differential effects, nor do the authors separately investigate the effects of photo ID apart from other voter identification requirements.

More recently, however, Mycoff et al. have analyzed the effects of mandatory photo ID on individual level turnout after controlling for state fixed effects. In this most recent analysis, Mycoff et al. cannot reject the null hypothesis that the within state effects of photo ID on overall turnout are zero; likewise, the null of zero effect cannot be rejected for turnout across race, ethnicity, income or age categories.<sup>10</sup> Overall, Mycoff et al. (2007) find that idiosyncratic factors, such as an individual's interest in politics, are far more important determinants of turnout than are institutional factors like voter identification.

The most recently available study of the effects of voter identification on voter turnout is by Alvarez, et al. (2007); these authors also examine the effects of voter identification on both state-level turnout and individual level turnout (from the Current Population Survey). Alvarez et al. control for state fixed effects in their analysis, but they fail to control for the presence and competitiveness of statewide races in the different states and years in their study. This unfortunate oversight should be corrected in future iterations of the study, but for now this shortcoming undermines the usefulness of the authors' findings. Ignoring this methodological problem, Alvarez et al. (2007) report that voter ID laws are associated with higher (albeit not significant) voter turnout in the analysis of state-level turnout from 2000-2006. The individual-level analysis suggests that voter identification requirements have a modest negative impact on overall turnout, no differential impacts by race or ethnicity and a slightly more negative impact on elderly or poor voters.



The results reported in Alvarez et al. (2007) also suggest that there is no significant change in voter turnout for any population subgroup when comparing the effects of mandatory photo ID laws to voluntary photo ID, although the authors do not conduct a formal test of this hypothesis. However, it is unclear at this point how sensitive the estimates reported by Alvarez et al. will be to the inclusion of controls for the presence and competitiveness of statewide races. Consequently, the recent and on-going study by Mycoff et al. (2007) remains the most reliable and thorough systematic evaluation of the effects of photo ID laws on voter turnout to date.

In this review, I have demonstrated that both theory and the best evidence to date strongly suggest that the effects of photo ID on overall turnout are likely to be very modest (and may even be positive). Further, the best analyses of the differential impact of photo ID indicate no deleterious effects on minorities, the poor, or the elderly. In the next section, I demonstrate that these conclusions are borne out in the county-level election returns for Indiana.

### 3. Data and Methods

The subsequent empirical analysis examines the effects of photographic identification requirements on county-level turnout in Indiana. I analyze the change in voter turnout in the general midterm elections of 2002 and 2006; these elections offer a nearly ideal natural experiment for identifying the effects of photo ID on turnout. This is because there were no other major changes in Indiana election laws during this time period, so the impact of photo ID will not be confounded with other changes in state election administration. Further, because some demographic groups tend to have higher turnout in presidential election years, it is appropriate to compare turnout in the two most recent midterm elections. Finally, these two midterm elections are also relatively comparable since there were no major contested statewide races in either year.<sup>11</sup> Even so, I also check the whether the resulting estimates are sensitive to the inclusion of additional midterm and/or presidential election years; to preview: they are not.

I measure voter turnout as the percent of voting age population (VAP) in each election year; VAP is estimated by the U.S. Census as of July 1st of the

election year.<sup>12</sup> This measure is commonly employed in studies of voter turnout in aggregate data, since voter registration data is not of a consistent quality across time or jurisdiction. However, voting age population estimates including non-citizens and other persons that are not eligible to vote. While this is more problematic for studies of turnout in states with larger populations of ineligible voters, it is less likely to be a concern in a state like Indiana. Further, to the extent that the number of non-citizens is growing over time, and is disproportionately of Hispanic ethnicity, this has the effect of understating overall turnout in 2006, especially in areas with higher Hispanic populations.

For this reason, I also measure voter turnout as the percentage of the estimated number of citizens of voting age (CVAP) in each year. However, reliable estimates of CVAP at the county-level are not readily available, so I generated my own estimate based upon U.S. Census counts of non-citizens in 2000. In order to estimate CVAP by county in each year, I first calculate the ratio of citizens of voting age population to all the total voting age population for each county in 2000 from Census data. I then multiply the estimated VAP for each county and year by this ratio. However, the question of whether voter turnout should be measured as a percentage of VAP or CVAP is not surprisingly a non-issue in the present context; the correlation between the two measures is better than 98% for the time periods examined in this study.

In order to measure the overall effect of photo ID on voter turnout across the 92 Indiana counties, I estimate an ordinary least squares regression controlling for county-fixed effects and year effects. The county fixed-effects account for factors such as demographic differences across counties, while the year effects account for the different composition of state races in each election year. However, there has only been one general election in Indiana post-photo ID, so it is not possible to separately identify the overall effects of photo-ID on voter turnout absent additional assumptions. For this reason, the present analysis focuses on the effects of photo ID on different groups of eligible voters.

I evaluate claims about the relative effects of voter ID on racial and ethnic minorities, the poor, the elderly, persons without a high school diploma and Democrats by estimating the effects of photo ID on



turnout in counties with greater percentages of those groups as a percent county population. However, these demographic variables do not vary over time, since they are taken from the 2000 U.S. Census. This means that it is not possible to control for county-fixed effects when estimating the effects of photo ID on these particular demographic groups. For this reason, I account for differences in the demographic composition of counties by including control variables for per capita income and the percent of county population by several categories, including: age, education, ethnicity, female labor force participation, military status, non-citizens, party, poverty, race, and rural status (see Appendix). I also check the sensitivity of results when this list of control variables is pared down to just age, education, ethnicity, income and race.

Despite the plethora of county-level control variables described above, it is possible that there remain some unobserved county-level phenomena that may bias the estimated effects of photo ID on turnout in some unknown way. For this reason, I also examine the effects of photo ID on the within-county change in voter turnout since the most recent general election (i.e., the change in voter turnout from 2004 to 2006 compared to the change from 2000 to 2002). This alternative model effectively purges voter turnout of the county-specific factors mentioned above and so provides an important check on the estimates obtained from the basic model. Finally, because repeated observations at the county-level over time are not necessarily independent observations, I also control for clustering of standard errors by county in every regression model.

While most authors examine the effects of voter identification on voter turnout, some (e.g., Alvarez et al. 2007) look at the effects on the natural logarithm of voter turnout (i.e. "log turnout"); for this reason, I use both of these measures in my analysis. Therefore, in the next section I present estimates for four basic statistical models, where the dependent variable is i) turnout, ii) log turnout, iii) change in turnout, and iv) change in log turnout. I also discuss the sensitivity of these results to different measures of turnout, time periods or sets of control variables; for the most part, the key findings are quite robust to these alternative specifications.

#### 4. Results

Voter turnout as a percentage of VAP in Indiana was about 2 percentage points higher in 2006 compared to 2002. This increase in turnout was fairly uniform across all counties; the mean within-in county change in turnout was +1.76% ( $p < .001$ ). However, it is not possible to discern how much of this increase in turnout is attributable solely to the effects of photo ID; this is because there was also an uncompetitive Senate race in 2006. For example, the presence of a U.S. Senate election in 2006 might have led to an increase in turnout above what it would have been otherwise. On the other hand, the fact that there was no Democrat candidate in the 2006 Senate race might have led to lower turnout than otherwise. In fact, my examination of historical Senate election data does indeed suggest that state voter turnout tends to be lower when there is an uncompetitive Senate election at the top of the state ticket, all else constant. Assuming that this phenomenon occurred in 2006 in Indiana, then the photo ID likely led to an even greater increase in voter turnout than the 2% observed in the raw data.

Even so, I prefer to err on the side of caution in this report, so I focus only on the differential impact of photo ID across Indiana counties. In contrast to the situation for overall turnout in 2006, there is no a priori reason to believe that the uncompetitive 2006 Senate election influenced voter turnout in some counties more than others. Consequently, the effects of photo ID on turnout across counties with differing populations of minority, poor, low education, elderly voters, or Democrat voters can be identified and estimated in the available election data.

In Table 1A, I report the estimated effects of photo ID on both turnout and the change in turnout for counties with higher proportions of minority population. The table is divided into two panels; one for each model. For example, the results in the top panel of the table under column one indicate that photo ID increased voter turnout in counties with higher percentage of black population, albeit this estimate is not statistically significant ( $t=1.23$ ). However, the estimated magnitude of this effect is quite large; for each percentage point increase in black population in a county, voter turnout increases by 0.1 percentage points. Looking to the bottom panel of Table 1A under the same column, the estimated effect



of photo ID on the change in turnout for counties with a higher percentage of Black population is also positive, nearly identical in magnitude, although again not statistically distinguishable from zero ( $t=0.59$ ).

Moving to column two of Table 1A, the estimated effect of photo ID on voter turnout (top panel) for counties with larger Hispanic populations is negative, but much smaller in magnitude than that for Black population and also statistically insignificant. However, the impact of voter ID on the change in voter turnout for counties with greater Hispanic population is positive (even more so than for Black population), but once again not significantly different from zero (bottom panel).

In column three, I report the estimated effects of photo ID for both the Black and Hispanic variables; this model exhibits a similar pattern as when the variables are estimated separately. In all but one case the estimated effect of photo ID on turnout is positive for counties with more Black or Hispanic population. However, in no case are these variables individually or jointly significant.

The final column of Table 1A reports the effects of photo ID on turnout in counties with higher total minority population (non-white and/or Hispanic). The estimates are identical for both turnout and the change in turnout models. For each one percentage point increase in minority population, county turnout increases by 0.7 percentage points after the implementation of photo ID. Again, these effects are imprecisely estimated, so the null hypothesis of a zero differential effect of voter ID on turnout in counties with higher minority populations cannot be rejected.

My analysis of the effects of photo ID on turnout by race and ethnicity continues with an examination of the impact on both the log of turnout and the change in the log of turnout. The results of this estimation are reported in Table 1B; however, because this is a non-linear model, the coefficients do not have a similarly straightforward interpretation as before. For example, the point estimate of .003 for %Black in the top panel under column one of Table 1B has the following interpretation: for each percentage point increase in Black population in a county, voter turnout increases by .003 times voter turnout in 2002. For example, given a county-wide voter turnout rate of 30% in 2002, the implementation of photo ID is associated with a .09 percentage point increase in 2006

turnout for each percentage point of black population (or a nearly identical effect as was observed in Table 1A).

Given the complexity of interpreting the estimates in Table 1B, and the fact that none of these estimates are significantly different from zero (either individually, or in the case of column three, jointly), I will only note that the pattern of qualitative results obtained in the log models of turnout is very similar to that seen in Table 1A. In fact, the only substantive difference is that the effect of photo ID on Hispanic population is uniformly more positive.

To this point, there is no evidence that photo ID requirements in Indiana reduced voter turnout, either overall, or in counties with relatively larger racial or ethnic minority populations. Re-estimating these models for the three most recent midterm elections (1998, 2002 and 2006) yields a similar pattern of results, with one exception: the effect of photo ID on counties with more Hispanic population is consistently positive. Similarly, including presidential election years, along with additional controls for the differing turnout tendencies in midterm versus presidential election years, likewise produces nearly identical results. Finally, substituting citizen voting age population (CVAP) for VAP in any of the models discussed above has the effect of making the estimated effects of photo ID on Hispanic population positive, but otherwise yields no appreciable difference.

The analysis above is repeated for other demographic groups in Tables 2A and 2B. Specifically, I examine the effects of photo ID on turnout in counties with higher percentages of families below the poverty line (%Poverty), persons with less than a high school degree (%No High School) education, and persons over 65 years of age (%Elderly). These demographic variables are never statistically significant in the turnout models shown in panel one of Table 2A, although both the percent of county population in poverty or elderly approach statistical significance ( $p<.15$ ). The effect of photo ID on turnout in counties with more poor families is positive, while the effect on turnout in counties with more elderly population is negative. However, these effects are largely attenuated for the change in turnout, and especially so for the percentage elderly (bottom panel of Table 2B). The effect of photo ID on turnout in counties with relatively fewer high school graduates exhibits a similar



pattern; it is negative and insignificant in panel one, but closer to zero and less precisely estimated in panel two. Further, these three demographic variables are jointly insignificant in both models. Finally, all of the race, ethnicity and demographic variables examined to this point are also not jointly significant when they are all simultaneously included in these turnout models.

As was the case for the race and ethnicity variables, the same general pattern of qualitative effects are observed in the log turnout and change in log turnout models (Table 2B); in addition, the demographic variables (poverty, no high school and elderly) are not jointly significant, nor is the combination of these demographic variables with the race and ethnicity variables examined in Table 1A and 1B. Re-estimating these four models for additional years, and/or substituting CVAP for VAP likewise yields no major changes, although the estimated effects of photo ID on counties with more elderly or low-education population become more positive and less precisely estimated.

The final variable examined is the extent of Democrat voting preferences in a county; this is measured using a common proxy in the political science literature, the county vote percentage for the Democrat presidential candidate in 2004 (John Kerry). The results for this variable are found in column four of Tables 2A and 2B. In all but one case, the effect of voter ID on turnout in highly Democrat-leaning counties is statistically significant or marginally so ( $p < .10$  or better). In every case examined in Tables 2A and 2B, photo ID is associated with higher turnout in counties with a greater share of Democrat leaning voters. The magnitude of this estimated effect is about 0.1 percentage points higher voter turnout in 2006 per percentage point increase in John Kerry's 2004 vote percentage in the county. [This result holds up even when the model is estimated using additional election years or citizen voting age population, as above.]

I have also estimated all of the models described above with a more sparse set of control variables, only including controls for age, education, ethnicity, income, and race. However, the choice of these control variables does not yield any notable changes in the pattern of results discussed here.

As a final sensitivity check, all of the models above have been estimated without the adjustment for

clustering of observations at the county level. This does not affect the estimated coefficients in these models but in general will affect the standard errors of the estimates. The effect of the cluster-adjustment to standard errors is to make some of the key estimates described above more precise; without the cluster-adjustment, none of the coefficients on percent elderly or percent poor remain even marginally statistically significant (i.e.,  $p > .10$  in every case). The only coefficient estimates that remain statistically significant without the cluster-adjustment are those for the percent Democrat in the county.

## 5. Discussion

Given the context of the existing research on voter turnout, my findings for Indiana are completely unsurprising. Despite the attention-grabbing and often strident claims that voter identification is the modern version of the poll tax and the like, nothing could be further from the truth. Existing theory and evidence from decades of social science research do not support the contention that photo ID requirements are likely to have a large and detrimental impact on turnout; nor does the previous empirical evidence find any significant impact of photo identification on racial or ethnic minorities. Further, the best previous evidence to date also finds no significant impact of photo ID on the poor or the elderly.

In this study, I exploit the existence of a natural experiment on the impact of photo ID: the change in turnout between the 2002 and 2006 midterm elections in Indiana. My analysis is novel not only for its focus on the effects of photo ID in Indiana, but because I subject my findings to a battery of sensitivity checks. This is also the first study to analyze the differential impact of photo ID requirements on turnout among more Democrat-leaning voters.

The findings that emerge from my analysis are that photo ID is associated with: i) an overall county-level turnout increase of almost two percentage points, ii) an insignificant increase in relative turnout for counties with a greater percentage of minority and poor population, iii) no consistent or significant impact on relative turnout in counties with a greater percentage of less educated or elderly voters, and iv) a significant relative increase in turnout for counties with a higher percentage of Democrat voters.



1 The term "mandatory" is a misnomer, since voters without proper photo ID are still allowed to cast a provisional ballot at the polls.

2 For example, see the recent brief for certiorari submitted to the U.S. Supreme Court by the Indiana Democratic Party and Marion County Democratic Central Committee (Indian Democratic Party, et al. v. Todd Rokita, et. al.).

3 Hood and Bullock (2007) argue that about 5% of registered voter names in Georgia do not have a valid driver's license or state identification card; however, the authors make no attempt to investigate how many of the registered voter names are actually attached to eligible voters. This is a rather egregious error, since it is well known that voter registration lists overstate, sometimes quite dramatically, the number of valid eligible voters due to duplicate, erroneous, out-dated and even fraudulent registrations. For example, in Indiana, the number of registered voters exceeds the number of voters that report being registered by more than 40% (Schulz 2007).

4 Ansolabehere (2007) does not explicitly report how many of the 23 persons with voter identification issues cast provisional ballots, although it would appear to be nearly all of them, since elsewhere he writes: "an almost immeasurably small number of people who tried to vote were excluded because of identification requirements or questions with their qualifications;" also, Ansolabehere notes that only three persons did not vote because of any problems with their voter registration.

5 Given the bitter partisan debate over voter identification, it would not be surprising if a handful of respondents chose to exaggerate their experience at the polls; in light of this, it is quite amazing that so few respondents self-report problems voting.

6 Ansolabehere (2007) reports that large majorities support voter identification reforms, including 70% of Blacks, 78% of Hispanics and 67% of all Democrats; in fact, persons who were asked to show identification when voting in 2006 were even more supportive of voter identification requirements than other respondents.

7 Also, see Primo and Milyo 2006a,b on the effects of political institutions on citizen trust and voter turnout.

8 For example, influential evidence on the importance of the intrinsic value of voting comes from field experiments in which those individuals that receive reminders about their civic duty to

vote are more likely to do so (Gerber and Green 2000). Further evidence comes from Ansolabehere, et al (1999); they argue that negative campaign advertising reduces voter turnout primarily because of its detrimental effect on public trust in the political process.

9 In fact, the two studies are nearly identical, as Vercellotti and Anderson were part of the research team that produced the Eagleton (2006) report.

10 Personal communication with Jason Mycoff (November 9, 2007).

11 There was not a gubernatorial or U.S. Senate election in Indiana in 2002. In 2006, there was a U.S. Senate race in which Richard Lugar, a Republican, was not opposed by a Democrat; Lugar defeated his closest opponent, a Libertarian candidate, by 87.3% to 12.6% of the total vote.

12 All data employed in this study were provided by Polidata ([www.Polidata.org](http://www.Polidata.org)).

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**Table 1A: Effects of Photo ID by Race and Ethnicity**  
(County Turnout in 2002 and 2006)

	(1)	(2)	(3)	(4)
<i>Panel One: % Voting Age Pop. (%VAP)</i>				
%Black*PhotoID	0.10 (1.23)		0.12 (1.44)	
%Hispanic*PhotoID		-0.03 (0.21)	-0.15 (0.97)	
%Minority*PhotoID				0.07 (1.27)
<i>Panel Two: Change in % Voting Age Pop.</i>				
%Black*PhotoID	0.09 (0.59)		0.08 (0.45)	
%Hispanic*PhotoID		0.13 (0.83)	0.06 (0.28)	
%Minority*PhotoID				0.07 (0.72)

Notes: Absolute values of t-statistics in parentheses (adjusted for clustering by counties). The estimated effects of photo ID interacted with percent Black and Hispanic are also not jointly significant in either panel above. All models include controls for year and characteristics of county population, including: age, education, ethnicity, female labor force participation, income per capita, military status, non-citizens, party, poverty, race, and rural status.



**Table 1B: Effects of Photo ID by Race and Ethnicity**  
**(Natural Logarithm of County Turnout in 2002 and 2006)**

	(1)	(2)	(3)	(4)
<i>Panel One: Log of % Voting Age Pop. (%VAP)</i>				
%Black*PhotoID	.003 (1.42)		.004 (1.50)	
%Hispanic*PhotoID		.000 (0.08)	-.003 (0.82)	
%Minority*PhotoID				.002 (1.55)
<i>Panel Two: Change in Log of % Voting Age Pop.</i>				
%Black*PhotoID	.002 (0.67)		.002 (0.58)	
%Hispanic*PhotoID		.002 (0.55)	-.000 (0.00)	
%Minority*PhotoID				.002 (0.82)

NOTES: Absolute values of t-statistics in parentheses (adjusted for clustering by counties). The estimated effects of photo ID interacted with percent Black and Hispanic are also not jointly significant in either panel above. All models include controls for year and characteristics of county population, including: age, education, ethnicity, female labor force participation, income per capita, military status, non-citizens, party, poverty, race, and rural status.



**Table 2A: Effects of Photo ID by Poverty, Education, Age, and Party  
(County Turnout in 2002 and 2006)**

	(1)	(2)	(3)	(4)
<i>Panel One: % Voting Age Pop. (%VAP)</i>				
%Poverty*PhotoID	0.29 (1.67)			
%NoHighSchool*PhotoID		-0.08 (1.25)		
%Elderly*PhotoID			-0.36 (1.89)	
%Democrat*PhotoID				0.10 (2.22)
<i>Panel Two: Change in % Voting Age Pop.</i>				
%Poverty*PhotoID	0.17 (0.98)			
%NoHighSchool*PhotoID		-0.01 (0.11)		
%Elderly*PhotoID			-0.08 (0.41)	
%Democrat*PhotoID				0.11 (1.59)

NOTES: Absolute values of t-statistics in parentheses (adjusted for clustering by counties). The estimated effects of photo ID interacted with percent poverty, no high school degree and elderly are also not jointly significant in either panel above. All models include controls for year and characteristics of county population, including: age, education, ethnicity, female labor force participation, income per capita, military status, non-citizens, party, poverty, race, and rural status.



**Table 2B: Effects of Photo ID by Poverty, Education, Age, and Party**  
**(Natural Logarithm of County Turnout in 2002 and 2006)**

	(1)	(2)	(3)	(4)
<i>Panel One: Log of % Voting Age Pop. (%VAP)</i>				
%Poverty*PhotoID	.007 (1.56)			
%NoHighSchool*PhotoID		-.003 (1.60)		
%Elderly*PhotoID			-.011 (2.08)	
%Democrat*PhotoID				.003 (2.28)
<i>Panel Two: Change in Log of % Voting Age Pop.</i>				
%Poverty*PhotoID	.004 (0.88)			
%NoHighSchool*PhotoID		-.001 (1.05)		
%Elderly*PhotoID			-.005 (0.99)	
%Democrat*PhotoID				.003 (1.87)

NOTES: Absolute values of t-statistics in parentheses (adjusted for clustering by counties). The estimated effects of photo ID interacted with percent poverty, no high school degree and elderly are also not jointly significant in either panel above. All models include controls for year and characteristics of county population, including: age, education, ethnicity, female labor force participation, income per capita, military status, non-citizens, party, poverty, race, and rural status.



**APPENDIX :**

The following county-level census variables are included as controls in the statistical analysis:

Percent non-Hispanic Black  
Percent Hispanic  
Percent non-white and/or Hispanic

Natural logarithm of per-capita income  
Percent of families in poverty

Percent without a high school degree (omitted category)  
Percent with at most a high school degree  
Percent with some college education  
Percent with college degree  
Percent with post-graduate education

Percent age less than 5 years (omitted category)  
Percent age between 5 and 17 years  
Percent age between 19 and 24 years  
Percent age between 25 and 44 years  
Percent age between 45 and 64 years  
Percent age 65 or more

Percent voting for John Kerry in 2004 (of those casting votes in 2004)

Percent active military  
Percent female labor force participation  
Percent non-citizens  
Percent retired military  
Percent rural

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